

**Remarks/Arguments:**

Claims 1-15 are pending in the application. Claim 15 is amended to more distinctly set forth the claimed subject matter. No new matter has been added.

**35 USC § 102**

Claims 1-2, 6-11, 13 and 15 are rejected under 35 USC § 102(b) as anticipated by US 4,214,699 ("Buchner"). Applicants respectfully traverse the rejection, because Buchner does not teach a hydrogen supply system that comprises both a hydrogen burner unit and a hydrogen consumption system as recited in independent claims 1 and 15. Only the hydrogen consumption unit (a motor) is taught. Applicants note that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."<sup>1</sup> "The identical invention must be shown in as complete detail as is contained in the ... claim."<sup>2</sup>

The rejection considers the motor of Buchner Fig. 2 to be both a hydrogen consumption system and a burner unit, and relies upon the motor to provide both features. Applicants respectfully point out that these features are recited separately in the claims and are therefore separate and distinct. Note that each element is modified by an indefinite article, and each element has a different function and occupies a different position in the hydrogen flow arrangement of the device, relative to the other components. Thus, they constitute two structural elements, and therefore cannot be met by any one structural element in Buchner.

Indeed, the Office notes in a later section of the Office Action (section 5, to be discussed later herein) that "Buchner does not explicitly disclose wherein the second hydrogen storage material is activated by oxidising a proportion of the hydrogen released from the first hydrogen storage material in a hydrogen burner unit" (emphasis in original). Accordingly, the Office relies in that section upon including a backup motor (not taught by Buchner) to provide this separate feature while the motor recited by Buchner serves as the hydrogen consumption system. The Office considers the backup motor to be inherently a hydrogen burner unit, a proposition with which Applicants respectfully disagree as will be explained later. But even under the Office's interpretation, Buchner teaches only one motor and hence does not teach

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<sup>1</sup> *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See MPEP 2131.

<sup>2</sup> *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). See MPEP 2131.

both a hydrogen burner unit and a hydrogen consumption system as recited in the present claims. Thus, Buchner does not anticipate any of claims 1-2, 6-11, 13 and 15.

35 USC § 103

Claims 1-2, 4-11 and 13 are rejected under 35 USC § 103(a) as unpatentable over Buchner. As noted above, the Office acknowledges that Buchner does not explicitly disclose wherein the second hydrogen storage material is activated by oxidising a proportion of the hydrogen released from the first hydrogen storage material in a hydrogen burner unit. In order to provide the missing hydrogen burner unit feature, the Office advances a two-step argument that 1) it would have been obvious to add a backup motor to Buchner's invention, and 2) the backup motor is a hydrogen burner unit.

Applicants respectfully disagree that it would have been obvious to add a backup motor. Buchner's invention is directed to methods and apparatus for supplying heat to a parked motor vehicle.<sup>3</sup> The Office Action asserts that a backup motor would be useful during maintenance, but this proposed objective is of questionable value because the owner of a parked motor vehicle that is undergoing maintenance is unlikely to be sitting in the vehicle in an area needing heat while a mechanic performs maintenance. If the Examiner is aware of a known need for such a capability, Applicants respectfully request that the Examiner take Official Notice of that need. In the absence of such, there is no reason of record to add a second motor, which the rejection relies upon to provide the recited hydrogen burner unit. Without some reason to make the proposed modification, *prima facie* obviousness has not been established, and Applicants respectfully request that the rejection be withdrawn.

Separately, and for purposes of maintaining an accurate record, Applicants note that the cited *St. Regis Paper Co. v. Bemis Co.* 193 USPQ 8 (7<sup>th</sup> Cir. 1977) decision does not appear to address the proposition for which it is cited, namely, that "... mere duplication of the essential working parts of a device involves only routine skill in the art."<sup>4</sup> Apparently the relevant claim element, namely multiple bag layers, was already found in the prior art as described in the *St. Regis Paper* decision. In any event, even if it would have been obvious to "merely duplicate" the motor of Buchner, neither the system of claim 1 or the method of claim 15 would be obtained by doing so. As discussed herein, a hydrogen burner unit is different from a hydrogen consumption system. Moreover, these features have different functions and occupy different

<sup>3</sup> Buchner, Field of the Invention

<sup>4</sup> Office Action, page 6, lines 1-2

input/output positions in the hydrogen flow arrangement of the device, relative to the other components.

Applicants also respectfully disagree that a motor is a burner, according to the plain meaning of that term. On this topic, the MPEP states as follows:<sup>5</sup>

"I. THE WORDS OF A CLAIM MUST BE GIVEN THEIR "PLAIN MEANING" UNLESS SUCH MEANING IS INCONSISTENT WITH THE SPECIFICATION

Although claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. [emphasis in original] During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004) (The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation in light of the specification).[emphasis added] This means that the words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)"

For the Examiner's convenience, Applicants provide the following dictionary definitions<sup>6</sup> of "burner":

1. One that burns something.
2. The part of a stove, furnace, or lamp that is lighted to produce a flame.
3. A device in which something is burned: *an oil burner*.

The use of the term "burner" in the present specification is consistent with the plain meanings reflected in the second and third definitions, and clearly indicates a device designed and configured to operate as a heat source. In contrast, a motor is designed to maximize the production of mechanical energy and to minimize the production of heat, and a motor is therefore not a burner according to the plain meaning of the word as understood in light of the specification. So, although Applicants believe that there would have been no reason to add a backup motor, doing so would in any case not have constituted adding a burner as recited in

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<sup>5</sup> MPEP 2111.01

<sup>6</sup> The American Heritage Dictionary of the English Language, New College Edition, Houghton Mifflin, 1981

the claims. Since this feature is missing, there can be no *prima facie* obviousness, and Applicants respectfully submit this additional and separate reason why the rejection should be withdrawn.

Claims 3, 12 and 14 are rejected under 35 USC § 103(a) as unpatentable over Buchner in view of US 2003/0162059 ("Gelsey"). The rejection relies upon Gelsey to provide claim features relating to recharging (claim 3), the use of a fuel cell as the hydrogen consumption system (claim 12), and the use of the claimed invention as a power source in a vehicle (claim 14). Buchner is relied upon to provide the other claim elements, but as seen above, fails to provide all of them. Gelsey does not remedy this deficiency, and so the claims are not obvious over Buchner in view of Gelsey and the rejection should be withdrawn.

#### Conclusion

Applicants respectfully request reconsideration and allowance of the pending claims, and invite the Examiner to contact Frank Tise if it appears that this would expedite examination.

Respectfully submitted,



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Attachments:

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